

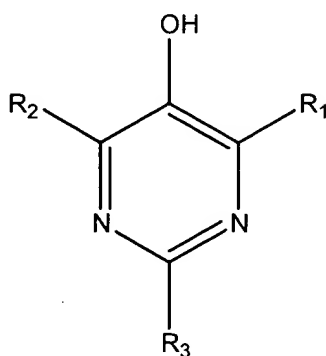
# AMENDMENT

## In the Claims

Claims 1-31 (Cancelled).

Claim 32 (Currently Amended). A method of ~~inhibiting the oxidation of~~ reducing the rate of oxidation in a petroleum composition or a mixture comprising:

introducing an effective amount of (i) a pyrimidine compound of the following formula and acid or base addition salts thereof, or (ii) an antioxidant composition comprising a pyrimidine compound and acid or base addition salts thereof of the following formula to said composition or mixture:



Formula 4

wherein,

R<sub>1</sub> is selected from the group consisting of hydrogen, alkyl, amino, alkylamino, and N,N-dialkylamino;

R<sub>2</sub> is selected from the group consisting of hydrogen and alkyl; and

R<sub>3</sub> is an electron-donating substituent.

Claim 33 (Previously Presented). The method of claim 32, wherein the petroleum composition or mixture is a base oil or mixture thereof suitable for the intended use as a lubricant.

Claim 34 (Previously Presented). The method of claim 33, wherein the base oil is selected from the group consisting of a conventionally refined mineral oil, an oil derived from coal tar or shale, a vegetable oil, an animal oil, a hydrocracked oil, a synthetic oil, or any mixture thereof.

Claim 35 (Previously Presented). The method of claim 32, wherein R<sub>3</sub> is selected from the group consisting of alkoxy, amino, N-alkylamino and N,N-dialkylamino.

Claim 36 (Previously Presented). The method of claim 32, wherein:

R<sub>1</sub> is selected from the group consisting of hydrogen and alkyl;

R<sub>2</sub> is selected from the group consisting of hydrogen, and alkyl; and

R<sub>3</sub> is selected from the group consisting of alkoxy, amino, N - alkylamino, and N,N-dialkylamino.

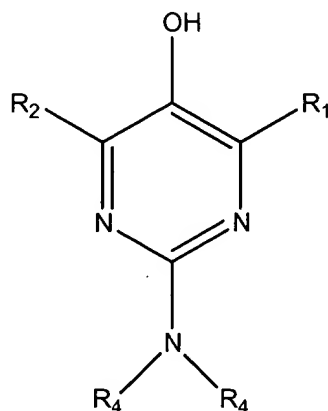
Claim 37 (Previously Presented). The method of claim 32, wherein:

R<sub>1</sub> is selected from the group consisting of amino, N-alkylamino and N,N-dialkylamino;

R<sub>2</sub> is selected from the group consisting of hydrogen, and alkyl; and

R<sub>3</sub> is selected from the group consisting of alkoxy, amino, N-alkylamino, and N,N-dialkylamino.

Claim 38 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is of the following formula:



Formula 7

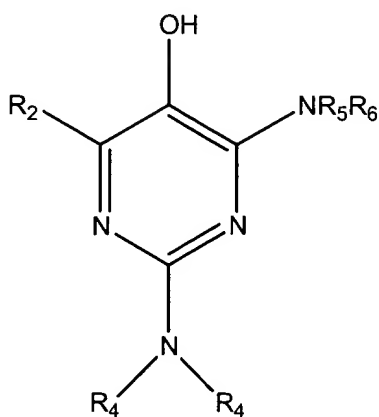
wherein,

R<sub>1</sub> and R<sub>2</sub> are H, methyl, or t-butyl; and

R<sub>4</sub> is each independently H, methyl, ethyl, t-butyl, pentyl, octyl, or phytyl.

Claim 39 (Previously Presented). The method of claim 38, wherein  $R_2$  is methyl, or t-butyl.

Claim 40 (Currently Amended). The method of claim ~~32~~ 35, wherein the pyrimidine compound is of the following formula:



~~Formula 9~~

wherein,

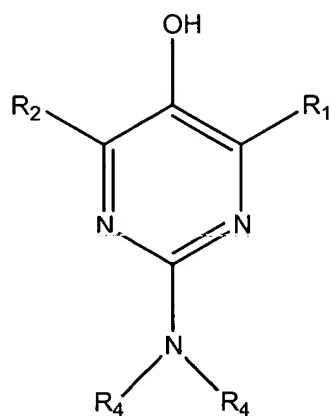
$R_2$  is H, methyl, or t-butyl; ~~and~~

~~$R_4$ ,  $R_5$ , and  $R_6$  are~~ is each independently H, methyl, ethyl, t-butyl, pentyl, octyl, or phytyl;

and

$R_5$  and  $R_6$  are each independently H, methyl, t-buytl.

Claim 41 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is of the following formula:

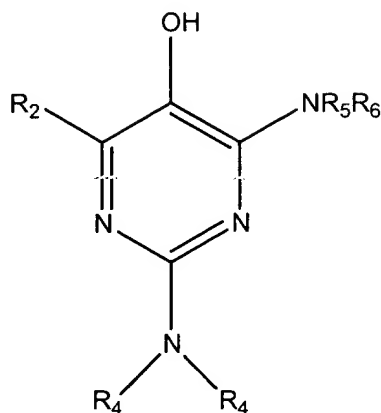


Formula 7

wherein,

R<sub>1</sub>, R<sub>2</sub>, and R<sub>4</sub> are each independently H, or an alkyl group.

Claim 42 (Currently Amended). The method of claim 32 ~~32~~ 35, wherein the pyrimidine compound is of the following formula:



Formula 9

wherein,

R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> are each independently H, or an alkyl group.

Claim 43 (Cancelled).

Claim 44 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is 2,4,6-trimethyl-5-pyrimidinol.

Claim 45 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is 2-methyl-4,6-di-tert-butyl-5-pyrimidinol.

Claim 46 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is 2-methoxy-4,6-dimethyl-5-pyrimidinol.

Claim 47 (Previously Presented). The method of claim 32, wherein the pyrimidine compound is 2-N,N-dimethylamino-4,6-dimethyl-5-pyrimidinol.

Claim 48 (Previously Presented). The method of claim 32, wherein the composition in which oxidation is inhibited is a petroleum composition selected from the group consisting of lubricating compositions and liquid organic fuels, and:

the introducing step reduces the oxidative environment in the petroleum composition.

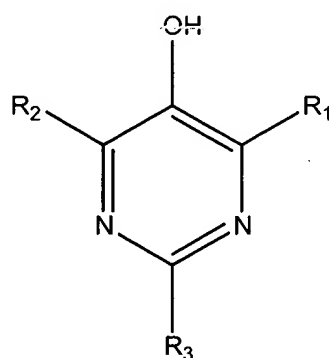
Claim 49 (Cancelled).

Claim 50 (Cancelled).

Claim 51 (Previously Presented). The method of claim 32, wherein the petroleum composition or mixture is a liquid organic fuel.

Claim 52 (Previously Presented). The method of claim 32, wherein the petroleum composition or mixture is a lubricant, rubber, polymer, solvent.

Claim 53 (Previously Presented). A method of stabilizing monomers, comprising:  
 introducing an polymerization inhibiting effective amount of effective amount of (i) a pyrimidine compound of the following formula and acid or base addition salts thereof, or (ii) an antioxidant composition comprising a pyrimidine compound and acid or base addition salts thereof of the following formula to a monomer:



Formula 4

wherein,

R<sub>1</sub> is selected from the group consisting of hydrogen, alkyl, amino, alkylamino, and N,N-dialkylamino;

R<sub>2</sub> is selected from the group consisting of hydrogen and alkyl; and

R<sub>3</sub> is an electron-donating substituent.

Claim 54 (Previously Presented). The method of claim 53, wherein said monomer leads to polyethylene, poly(vinyl chloride), polystyrene, styrene-butadiene rubber, butadiene-acrylonitrile copolymer, aryllonitrile-butadiene-styrene copolymer, polychloroprene,



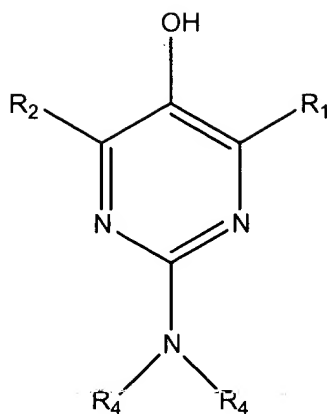
poly(methyl methacrylate), polyacrylonitrile, poly(vinyl acetate), poly(vinylidene chloride), poly(acrylic acid), poly methacrylic acid), polyacrylamide, polytetrafluoroethylene, polytrichlorofluoroethylene, poly(vinylidene fluoride), polyvinyl fluoride), allyl resins.

Claim 55 (Previously Presented). The method of claim 53, wherein  $R_3$  is selected from the group consisting of alkoxy, amino, N-alkylamino and N,N-dialkylamino.

Claim 56 (Previously Presented). The method of claim 53, wherein,  
 $R_1$  is selected from the group consisting of hydrogen and alkyl;  
 $R_2$  is selected from the group consisting of hydrogen, and alkyl; and  
 $R_3$  is selected from the group consisting of alkoxy, amino, N - alkylamino, and N,N-dialkylamino.

Claim 57 (Previously Presented). The method of claim 53, wherein,  
 $R_1$  is selected from the group consisting of amino, N-alkylamino and N,N-dialkylamino;  
 $R_2$  is selected from the group consisting of hydrogen, and alkyl; and  
 $R_3$  is selected from the group consisting of alkoxy, amino, N-alkylamino, and N,N-dialkylamino.

Claim 58 (Currently Amended). The method of claim 53, wherein the pyrimidine compound is of the following formula:



~~Formula 7~~

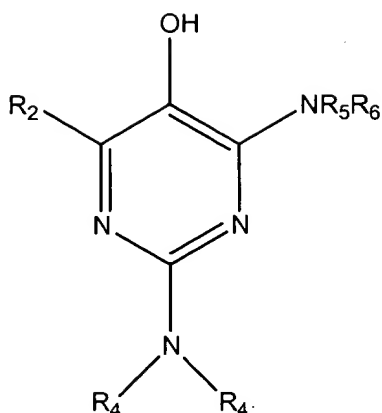
wherein,

R<sub>1</sub> and R<sub>2</sub> are H, methyl, or t-butyl; and

R<sub>4</sub> is each independently H, methyl, ethyl, t-butyl, pentyl, octyl, or phytyl.

Claim 59 (Previously Presented). The method of claim 53, wherein R<sub>2</sub> is methyl, or t-butyl.

Claim 60 (Currently Amended). The method of claim 53, wherein the pyrimidine compound is of the following formula:



Formula 9

wherein,

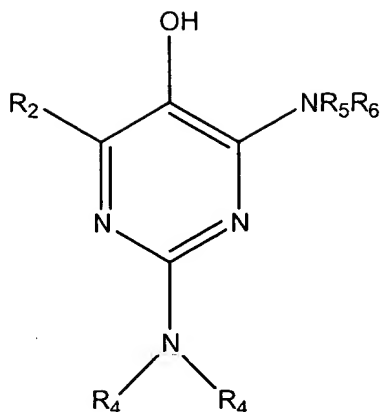
R<sub>2</sub> is H, methyl, or t-butyl; and

~~R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> are~~ is each independently H, methyl, ethyl, t-butyl, pentyl, octyl, or phytyl;

and

R<sub>5</sub>, and R<sub>6</sub> are each independently H, methyl, t-butyl.

Claim 61 (Currently Amended). The method of claim 53, wherein the pyrimidine compound is of the following formula:



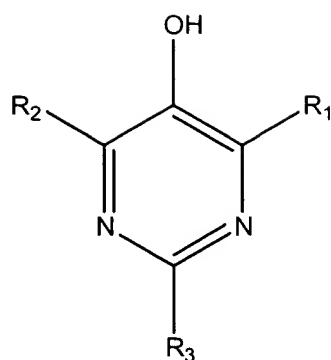
~~Formula 9~~

wherein,

$R_2$ ,  $R_4$ ,  $R_5$ , and  $R_6$  are each independently H, or an alkyl group.

Claim 62 (Previously Presented). A method of inhibiting the oxidation of a polymer, comprising:

introducing an effective amount of (i) a pyrimidine compound of the following formula and acid or base addition salts thereof, or (ii) an antioxidant composition comprising a pyrimidine compound and acid or base addition salts thereof of the following formula to the polymer:



Formula 4

wherein,

R<sub>1</sub> is selected from the group consisting of hydrogen, alkyl, amino, alkylamino, and N,N-dialkylamino;

R<sub>2</sub> is selected from the group consisting of hydrogen and alkyl; and

R<sub>3</sub> is an electron-donating substituent.

Claim 63 (Previously Presented). The method of claim 62, wherein R<sub>3</sub> is selected from the group consisting of alkoxy, amino, N-alkylamino and N,N-dialkylamino.